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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,716	01/07/2004	Jerome Soupe	U 014967-6	2542
22847	7590	06/29/2006	EXAMINER	
SYNGENTA BIOTECHNOLOGY, INC. PATENT DEPARTMENT 3054 CORNWALLIS ROAD P.O. BOX 12257 RESEARCH TRIANGLE PARK, NC 27709-2257			HENDRICKS, KEITH D	
		ART UNIT	PAPER NUMBER	
		1761		
DATE MAILED: 06/29/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/765,716	SOUFFE ET AL.
	Examiner	Art Unit
	Keith Hendricks	1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3 is/are rejected.
- 7) Claim(s) 4-8 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. 09/230,590.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/2005.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

The computer readable form of the electronic sequence information has been completed and entered. However, the sequences cited in the specification (at pages 20, 22, etc.) should be denoted with the corresponding SEQ ID Number. Appropriate correction is required.

Claim Objections

Claims 4-8 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n).

Accordingly, claims 4-8 have not been further treated on the merits. It is noted that applicant has received an action on the merits of these claims in a previous application (09/230,590), in which a preliminary amendment was submitted to rectify this issue prior to examination. However, given that such is not the case in the current application, and because potential conflicts would be present in the claims, for example between claims 7 depending upon claim 5 and other claims, claims 4-8 properly have not been further treated on the merits.

Upon any amendment to the claims in response to this Office action, applicant is suggested to review the rejections in the previous two parent applications (at the least, for language and content under 35 USC 112), and amend the claims appropriately.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The "process for the production of alcoholic beverages" does not set forth any actual method steps. The "addition" of the enzyme mixture also renders the claims indefinite, as it is unclear as to what they are added.

The term "(1,3;1,4)" should be "(1,3-1,4)" in claim 1, last line.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,361,808. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims fully encompass the patented claims, each directed to the use of the recited enzyme combination for the production of alcoholic beverages.

Claims 1-3 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,699,515. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims fully encompass the patented claims, each directed to the use of the recited enzyme combination for the production of alcoholic beverages.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimamura et al. (US PAT 6,265,000).

Shimamura disclose a process for the production of a carbonated alcoholic beverage, whereby a “mixture of malt and an amylaceous raw material is added with a koji which has been prepared using a mold selected from the group consisting of yellow Aspergillus and white Aspergillus. The mixture is then saccharified by the koji to obtain a saccharified malt liquor. An output from production of an alcoholic beverage, which is of a type different from the saccharified malt liquor, is incorporated in the saccharified malt liquor.”

As malt naturally and inherently contains the enzymes presently recited in the instant claims, and because it is used to produce an alcoholic beverage as disclosed by Shimamura et al., claims 1-3 are anticipated by the reference.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walmsley et al. (US PAT 3,716,365), in view of the combination of GB 1442402 and Olsen et al. (US PAT 5,866,526).

Walmsley et al. disclose a process for making brewers' wort, for the conversion to fermented alcoholic beverages, wherein a starch-containing material is subjected to a combination of enzymes to

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control the digestion of the starch material. The combination of enzyme allows for the use of less malt (col. 1), which is thus economical. The starch slurry is contacted with, either individually or in combination, a protease or a protease and alpha-amylase, with malt. At col. 4, the reference states that "other enzymes, aside from the protease and/or alpha amylase may also be present such, for example, as cellulases, hemicellulases and pectinases." Both endo- and exo-proteases are disclosed from various sources at col. 6. At col. 10, the additional use of a saccharifying enzyme, beta-amylase, is disclosed.

GB 1442402 disclose the production of beer wort from barley malt using "at least one of" a fungal protease, alpha-amylase, bacterial glucoamylase, and bacterial beta-glucanase (pg. 1, lines 71-85).

Olsen et al. teach of "modified" enzyme preparations for various industrial uses, including brewing of alcoholic beverages (see col. 13, 16). The enzyme preparation "may comprise a combination of one or more enzymes selected from the group consisting of modified amylase, lipase and hemicellulase with one or more other enzymes." Specifically suggested are also xylanase and amylase. At columns 3-4, several bacterial and fungal hemicellulases are provided, specifically including xylan beta-1,4 xylosidase, and alpha-L-arabinofuranosidase.

Further, while not relied upon as motivation or as a specific teaching, at page 5, lines 20-31 of the specification, applicants acknowledge that "the enzyme activities which are known to be necessary for beer production are alpha- and beta-amylase...", protease, beta-glucanase and xylanase.

Thus, it would have been obvious to one of ordinary skill in the art to have utilized the teachings of the references with regard to combining enzymatic activities for improved beer wort production. Each of the references specifically details the combination of at least two separate enzymes from separate sources, for use in such a system. The advantageous effects of each of these enzymes on barley malt is also disclosed. The addition of any or all of these enzymes would have been expected to expedite processing time, as stated by the references, and therefore would have been obvious to perform. The combination of known components, such as these known enzyme mixtures, for the purpose of utilizing their known effects as suggested, would have been considered obvious, and would not have involved an inventive contribution to the art.

Regarding the selection of the "specific" types of enzymes claimed (which are merely classes of enzymes, not specific enzymes), the instantly claimed combination of enzymes was generally disclosed in the primary reference with sufficient specificity that one of ordinary skill in the art would have had ample motivation and guidance to have used the claimed enzymes. Walmsley et al. specifically disclose the use of 2 of the 5 enzymes (alpha amylase and endo-protease) of claim 1, as well as the additional specific

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enzymes of claims 2-3 (beta-amylase and exo-peptidase), for a total of 4 of the 7 enzymes claimed. Therefore, the issue is directed only to the inclusion/selection of the endo beta-1,4 xylanase, alpha-L-arabinofuranosidase, and the beta-glucanase. Regarding such, Walmsley et al. states that "other enzymes, aside from the protease and/or alpha amylase may also be present such, for example, as cellulases, hemicellulases and pectinases." This would, then, naturally include the endo beta-1,4 xylanase, alpha-L-arabinofuranosidase, and the beta-glucanase. Therefore the issue then becomes a matter of selecting which enzymes to use. The motivation to specifically use these enzymes claimed also comes from the secondary references of GB 1442402 and Olsen et al., which have used combinations of enzymes for producing beer wort from barley malt for brewing, and specifically have successfully included the beta-glucanase, xylan beta-1,4 xylosidase (i.e. endo-beta(1,4) xylanase), and alpha-L-arabinofuranosidase. Further, the collective references provide a combination of enzymes which would result in a successful brewing procedure, as (a) each of the references teaches a combination of enzymes for a successful brewing procedure, and (b) each of the specific enzymes, either alone or in combination(s), were known to function effectively and desirably in a brewing procedure.

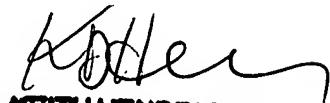
It is noted that applicants may rebut the *prima facie* case of obviousness by showing a criticality of the claimed combination, which showing must be specific and commensurate in scope with the claims, and a discussion of any unexpected results. However, as it stands, it appears that the claimed invention is simply a preferred combination of the known enzymes, which were suggested and known by the prior art, and result in an activity that reflects their individual contributions to the beverage-making process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Hendricks whose telephone number is (571) 272-1401. The examiner can normally be reached on M-F (8:30am-6pm); First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



KEITH HENDRICKS
PRIMARY EXAMINER